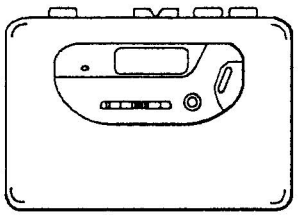
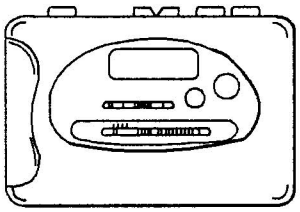
aiwa

HS-JX719
HS-JX619



HS-JX619



HS-JX719

STEREO RADIO
CASSETTE RECORDER

SERVICE MANUAL

- BASIC TAPE MECHANISM : 2ZM – 2
- TYPE. AH,AE,AZ

SPECIFICATIONS

Frequency range:
FM: 87.5/87.5-108.1/108MHz (200/50kHz STEP)
AM: 530/531-1,710/1,602kHz (10/9kHz STEP)
Maximum output:
10mW+10mW (EIAJ/32Ω)
12mW+12mW (EIAJ/16Ω)
Power source:
Battery DC 2V, rechargeable battery (PB-4)
Battery DC 3V, R-03, LR-03(AAA) × 2
Domestic AC power (using the supplied AC adaptor)
Battery life:
Using rechargeable battery (PB-4)
Approx. 2 hours (EIAJ, REC/1 hour recharging)
Approx. 1.5 hours (EIAJ, PB 1mW/10 minutes recharging)
Approx. 3.5 hours (EIAJ, PB 1mW/1 hour recharging)
Using alkaline batteries (LR-03, AAA) × 2
Approx. 3 hours (EIAJ, REC)
Approx. 6.5 hours (EIAJ, PB 1mW)
Dimensions:
109.4 (W) × 78.5 (H) × 31.0 (D) mm
(4⅜ × 3⅛ × 1¼ in.)
Weight:
Approx. 220g (0.48 lb) incl. rechargeable battery

<AC adaptor/AC-207>
Rated voltage:
AC-207H AC 115V/230V, switchable
AC-207E, Z AC 230V
Rated output:
DC 2V 350mA

- Design and specifications are subject to change without notice.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
- "DOLBY" and the double-D symbol ◻◻ are trademarks of Dolby Laboratories Licensing Corporation.
- The word "BBE" and the "BBE symbol" are trademarks of BBE Sound, Inc.
- Under license from BBE Sound, Inc.

S/M Code No. 0222 DATE OF ISSUE 3/1993 – I

DISASSEMBLY INSTRUCTIONS

1. "Cab, Rear" Removal (See Figure – 1)
   1) Remove 5 screws (Ⓐ× 3, Ⓑ× 1, Ⓒ× 1) and remove the "Cab, Rear".

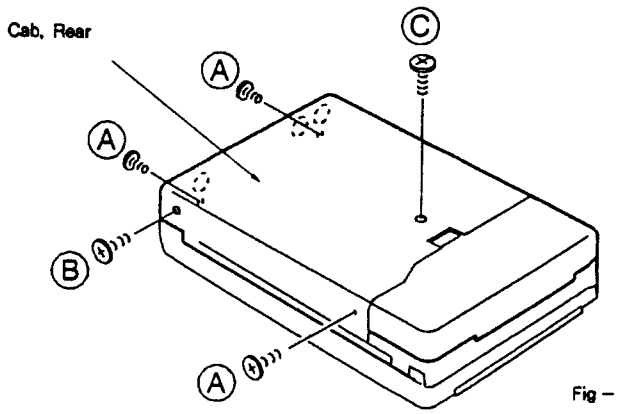


Fig – 1

2. "Lid, Cass ASSY" Removal (See Figure – 2)
   1) Remove 3 screws (Ⓐ× 1, Ⓑ× 2) sand remove the "Lid, Cass ASSY".

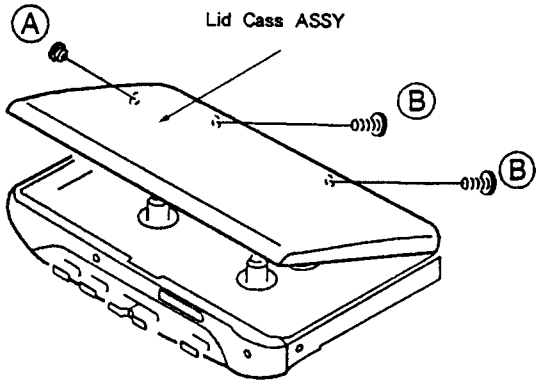


Fig – 2

3. "Hldr, Cass and Front C.B" Removal (See Figure – 3)
   1) Remove 4 screws (Ⓐ× 2, Ⓑ× 1, Ⓒ× 1) and remove the "Hldr, Cass".
   2) Remove 2 screws (Ⓓ) and remove the "Tuner C.B".

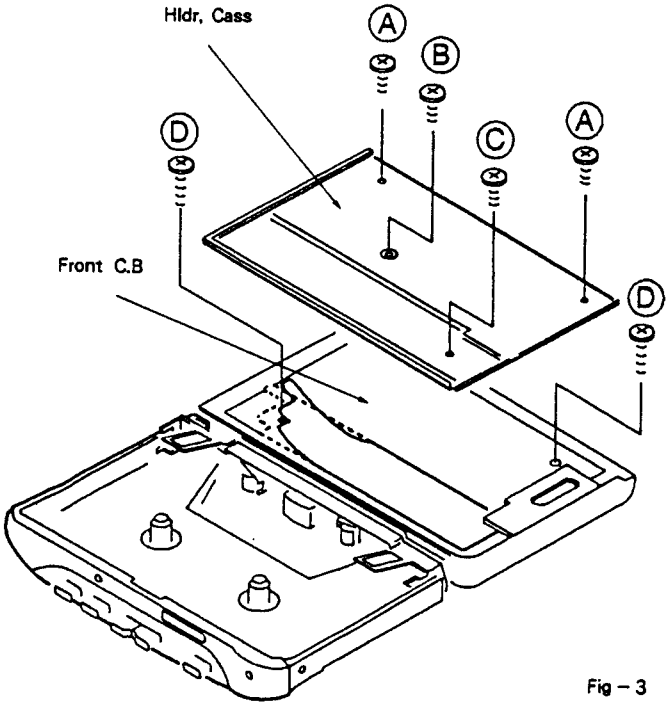


Fig – 3

4. "Frame, Center and Frame, Bottom" Removal (See Figure – 4)
   1) Remove 2 screws (Ⓐ) and "Frame, Center" in the direction of arrow ①.
   2) Remove 3 screws (Ⓑ) and "Frame, Bottom"

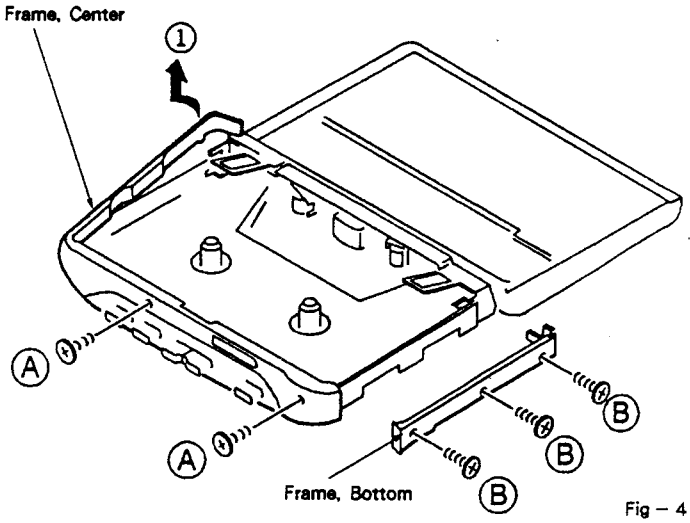


Fig – 4

5. "Main C.B" Removal (See Figure – 5)
   1) Remove 7 screws (Ⓐ× 1, Ⓑ× 2, Ⓒ× 4) unsolder the soldered points and remove the "Main C.B"

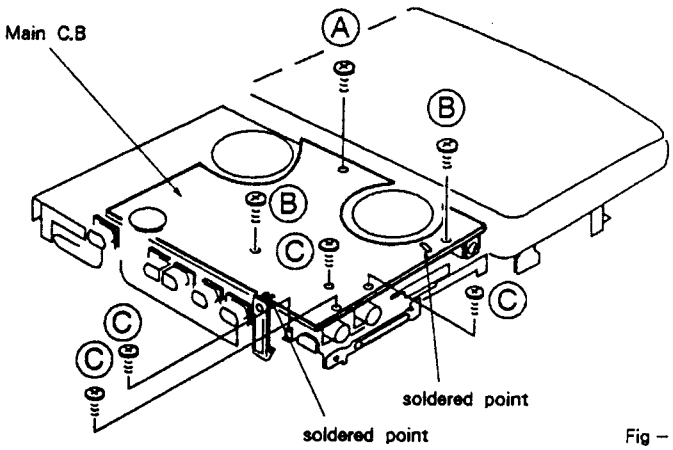


Fig – 5

Motor Removal (See Figure – 6)

1) Remove screw (Ⓐ)
2) Release 6 Hooks and remove Holder FP.
3) Remove the Rotary Yoke , FP Coil and Rotor ASSY.

Motor Reinstallation (See Figure – 6)

a) Insert the Pin ASSY into the FP Coil and solder it.
b) Install the Rotary Yoke. FP Coil and Rotor ASSY into the chassis.
c) Install the Holder FP and tighten screw (Ⓐ).

To Check the operation when the Main C.B is opened (See Figure – 6)

A) Use Wires to connect the Motor Terminals and the terminals of the Main C.B.(See Figure – 6 – 1)
B) Set the Mechanism to the PLAY mode.
C) Turn the POWER SW on. Or, use a Wire to short the switch as shown in the figure below.
D) Turn the MUTE SW off. Or, use a Wire to short the switch as shown in the figure below.

Note A Supply power through the DC Jack and make sound output from the HP Jack.

Note B Set the R/F SW to the F position during FWD PLAY.
Set the R/P SW to the R position during RVS PLAY.

PART NO	DESCRIPTION
09 – 001 – 258 – 010	2ZM – 2 MOTOR KIT

Cautions When Reinstalling

1) Be careful not to damage the FP Coil since the magnet is strong.
2) Check that no foreign matter adheres to the magnet, etc.
3) Insert a sheet of Paper, etc. between the Rotary Yoke and FP Coil to prevent damage to the FP Coil. (Remove the sheet of Paper when reinstalling.)
4) After reinstalling, turn the motor with your fingers and check that no abnormal sound is heard and it rotates smoothiy.

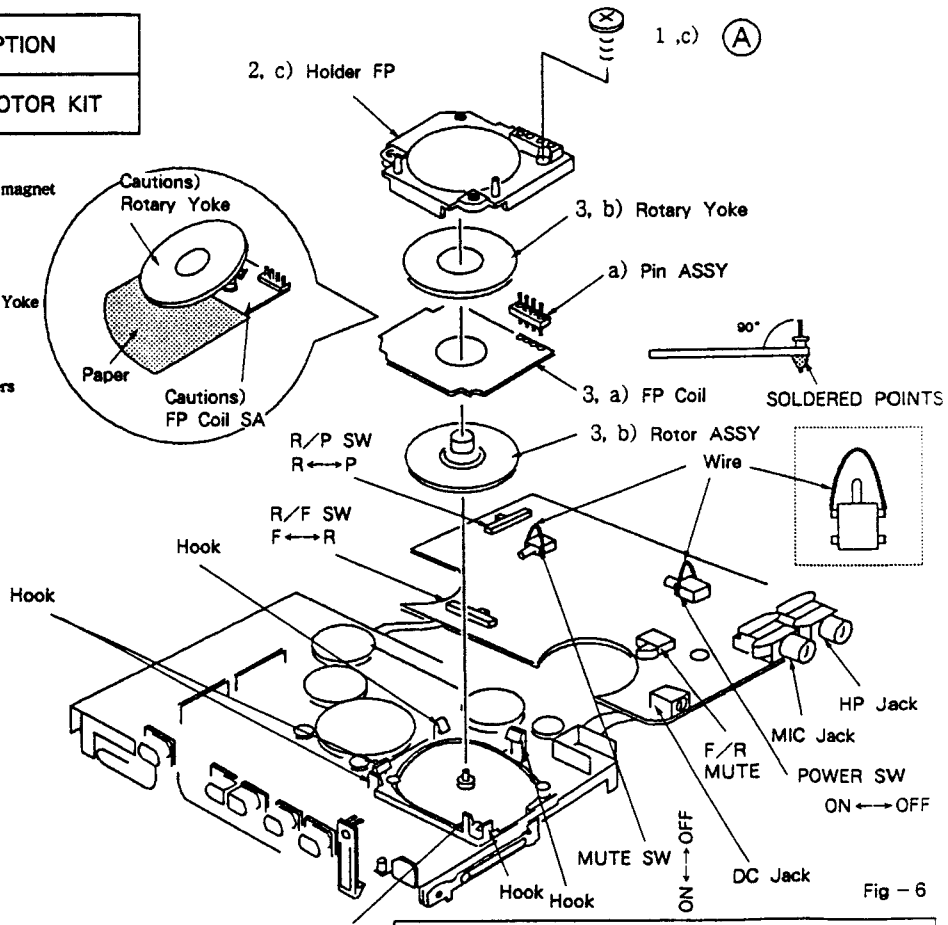


Fig – 6

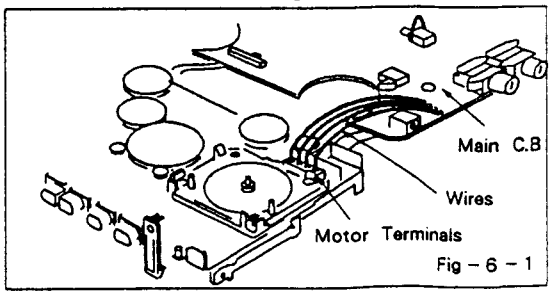


Fig – 6 – 1

ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO.	PART NO.	DESCRIPTION
IC		
	87-001-894-080	IC, TA8155FN
	87-001-875-080	IC, BA1106 F(S)
	87-001-808-080	IC, ASP5410
	87-020-234-080	IC, TA7688F
	87-002-406-080	IC, TPIC326ADB
	87-001-149-080	IC, TA8158F
	87-001-971-080	IC, TA8132AF
	87-001-145-080	IC, TA8126F
	87-001-151-080	IC, TD6134F1
	87-002-334-010	IC, TC9308-030
	87-017-360-080	IC, SC7S04F(E5)
TRANSISTOR		
	87-026-467-080	C-TR, HN1C01F(C1)
	89-342-132-080	C-TR, 2SC4213B(AB)
	89-341-165-080	C-TR, 2SC4116GR(LG)
	87-026-475-080	C-TR, RN1607(XH)
	87-026-470-080	C-TR, HN1C03F(C3)
	89-115-864-080	C-TR, 2SA1586Y(ZY)
	89-113-625-080	C-TR, 2SA1362GR(AEG)
	87-026-474-080	C-TR, RN1605(XE)
	87-026-481-080	C-TR, RN4607(VH)
	87-026-412-080	C-TR, RN1305(XE)
	87-026-425-080	C-TR, RN2307(YH)
	87-026-414-080	C-TR, RN1307(XH)
	89-342-153-080	C-TR, 2SC4215O(QO)
	87-026-482-080	C-TR, RN4610(VK)
	89-508-824-080	C-FET, 2SK882 Y(TY)
DIODE		
	87-001-553-080	C-DIODE, 1SS322(A9)
	87-001-167-080	C-DIODE, 1SS302(C3)
	87-001-166-080	C-DIODE, 1SS301(B3)
	87-001-221-080	C-DIODE, 1SS319(A4)
MAIN CIRCUIT BOARD SECTION		
C1	87-016-057-080	C-CAP, TN 47-4 F95
C2	87-010-746-080	C-CAP, TN 10-4
C3	87-015-923-080	C-CAP, TN 0.22-35
C4	87-015-923-080	C-CAP, TN 0.22-35
C5	87-010-805-080	C-CAP, S 1-16 F
C6	87-010-805-080	C-CAP, S 1-16 F
C7	87-010-787-080	C-CAP, U 0.022-25B
C8	87-010-787-080	C-CAP, U 0.022-25B
C9	87-010-805-080	C-CAP, S 1-16 F
C10	87-010-805-080	C-CAP, S 1-16 F
C11	87-012-273-080	C-CAP, U 820P-50 B
C12	87-012-273-080	C-CAP, U 820P-50 B
C13	87-012-274-080	C-CAP, U 1000P-50 B
C14	87-012-274-080	C-CAP, U 1000P-50 B
C15	87-010-805-080	C-CAP, S 1-16 F
C16	87-010-805-080	C-CAP, S 1-16 F
C17	87-012-195-080	C-CAP, U 100P-50 CH
C18	87-012-195-080	C-CAP, U 100P-50 CH
C19	87-010-958-080	C-CAP, S 0.01-25 B J
C20	87-010-958-080	C-CAP, S 0.01-25 B J
C21	87-016-224-080	C-CAP, TN 22-2.5
C22	87-016-224-080	C-CAP, TN 22-2.5
C23	87-010-787-080	C-CAP, U 0.022-25B
C24	87-010-787-080	C-CAP, U 0.022-25B
C25	87-016-224-080	C-CAP, TN 22-2.5
C26	87-012-278-080	C-CAP, U 2200P-50 B
C27	87-012-270-080	C-CAP, U 470P-50 B
C28	87-012-286-080	C-CAP, U 0.01-25 B
C29	87-010-424-080	C-CAP, TN 4.7-4
C30	87-012-286-080	C-CAP, U 0.01-25 B
C31	87-012-279-080	C-CAP, U 2700P-50 B
C32	87-012-286-080	C-CAP, U 0.01-25 B
C34	87-012-286-080	C-CAP, U 0.01-25 B
C37	87-010-805-080	C-CAP, S 1-16 F
C38	87-010-805-080	C-CAP, S 1-16 F
C39	87-010-828-080	C-CAP, U 0.033-16 F
C40	87-010-828-080	C-CAP, U 0.033-16 F
C41	87-012-282-080	C-CAP, U 4700P-50 B
C42	87-012-282-080	C-CAP, U 4700P-50 B
C43	87-012-286-080	C-CAP, U 0.01-25 B
C44	87-012-286-080	C-CAP, U 0.01-25 B
C45	87-010-828-080	C-CAP, U 0.033-16 F
C46	87-010-828-080	C-CAP, U 0.033-16 F
C47	87-010-831-080	C-CAP, U 0.1-16F
C48	87-010-831-080	C-CAP, U 0.1-16F
C49	87-016-224-080	C-CAP, TN 22-2.5
C51	87-010-805-080	C-CAP, S 1-16 F
C52	87-010-805-080	C-CAP, S 1-16 F
C53	87-010-197-080	C-CAP, S 0.01-25 B(JX719)
C54	87-012-286-080	C-CAP, U 0.01-25 B(JX719)
C55	87-010-194-080	C-CAP, S 0.047-25 F(JX719)
C56	87-010-829-080	C-CAP, U 0.047-16F(JX719)
C57	87-010-194-080	C-CAP, S 0.047-25 F(JX719)
C58	87-010-194-080	C-CAP, S 0.047-25 F(JX719)
C59	87-010-320-080	C-CAP, S 68P-50 CH(JX719)
C60	87-010-320-080	C-CAP, S 68P-50 CH(JX719)
C61	87-010-194-080	C-CAP, S 0.047-25 F(JX719)
C62	87-010-194-080	C-CAP, S 0.047-25 F(JX719)
C63	87-010-424-080	C-CAP, TN 4.7-4(JX719)
C64	87-010-424-080	C-CAP, TN 4.7-4(JX719)
C65	87-015-934-080	C-CAP, TN 2.2-4(JX719)
C66	87-015-934-080	C-CAP, TN 2.2-4(JX719)
C67	87-012-142-080	C-CAP, S 0.33-16 F(JX719)
C68	87-012-142-080	C-CAP, S 0.33-16 F(JX719)
C69	87-012-266-080	C-CAP, U 220P-50 B(JX719)
C70	87-012-266-080	C-CAP, U 220P-50 B(JX719)
C71	87-010-805-080	C-CAP, S 1-16 F(JX719)
C72	87-010-424-080	C-CAP, TN 4.7-4(JX719)
C73	87-010-746-080	C-CAP, TN 10-4(JX719)
C75	87-010-805-080	C-CAP, S 1-16 F
C76	87-010-805-080	C-CAP, S 1-16 F(JX719)
C77	87-010-805-080	C-CAP, S 1-16 F
C78	87-010-805-080	C-CAP, S 1-16 F
C79	87-010-178-080	C-CAP, S 1000P-50 B
C80	87-010-178-080	C-CAP, S 1000P-50 B
C81	87-010-787-080	C-CAP, U 0.022-25B
C82	87-010-787-080	C-CAP, U 0.022-25B
C83	87-010-831-080	C-CAP, U 0.1-16F
C84	87-010-831-080	C-CAP, U 0.1-16F
C85	87-010-831-080	C-CAP, U 0.1-16F
C86	87-010-831-080	C-CAP, U 0.1-16F
C87	87-016-057-080	C-CAP, TN 47-4 F95
C88	87-010-805-080	C-CAP, S 1-16 F
C89	87-010-805-080	C-CAP, S 1-16 F
C90	87-016-057-080	C-CAP, TN 47-4 F95(JX719)
C91	87-010-805-080	C-CAP, S 1-16 F
C92	87-010-805-080	C-CAP, S 1-16 F
C93	87-010-831-080	C-CAP, U 0.1-16F(JX719)
C94	87-010-831-080	C-CAP, U 0.1-16F(JX719)
C95	87-012-284-080	C-CAP, U 6800P-50 B(JX719)
C96	87-012-284-080	C-CAP, U 6800P-50 B(JX719)
C97	87-010-805-080	C-CAP, S 1-16 F(JX719)
C98	87-010-805-080	C-CAP, S 1-16 F(JX719)
C99	87-012-274-080	C-CAP, U 1000P-50 B
C100	87-012-274-080	C-CAP, U 1000P-50 B
C101	87-010-805-080	C-CAP, S 1-16 F
C102	87-010-805-080	C-CAP, S 1-16 F
C103	87-010-824-010	CAP, E 220-2 (MJ)

REF. NO.	PART NO.	DESCRIPTION
C104	87-010-824-010	CAP, E 220-2 (MJ)
C105	87-016-224-080	C-CAP, TN 22-2.5
C106	87-016-252-080	C-CAP, TN 15-4
C107	87-016-057-080	C-CAP, TN 47-4 F95
C108	87-010-668-080	C-CAP, E 220-4 MV
C109	87-016-057-080	C-CAP, TN 47-4 F95
C110	87-012-286-080	C-CAP, U 0.01-25 B
C111	87-010-805-080	C-CAP, S 1-16 F
C113	84-439-620-080	CAP, E 470-4
C120	87-010-668-080	C-CAP, E 220-4 MV
C121	87-016-174-080	C-CAP, TN 4.7-4 F95Q
C122	87-016-168-080	C-CAP, TN 0.47-25
C123	87-010-831-080	C-CAP, U 0.1-16F
C124	87-016-164-080	C-CAP, TN 0.1-35 F95Q
C125	87-010-504-080	C-CAP, TN 0.47-25
C126	87-010-829-080	C-CAP, U 0.047-16F
C127	87-016-169-080	C-CAP, TN 0.68-20
C128	87-010-831-080	C-CAP, U 0.1-16F
C129	87-012-142-080	C-CAP, TN 0.33-16F
C130	87-012-142-080	C-CAP, TN 0.33-16F
C131	87-010-831-080	C-CAP, U 0.1-16F
C140	87-010-483-010	CAP, E 220-4
C141	87-010-483-010	CAP, E 220-4
J1	87-099-009-010	JACK 3.5 BLK(L) N
J2	87-099-009-010	JACK 3.5 BLK(L) N
J3	87-049-549-010	JACK, DC
L1	87-007-270-080	C-COIL, OSC BIAS
L2	87-003-234-080	C-COIL, S 0.22 UH
L3	87-003-240-080	C-COIL, S 3.3 UH
L4	87-003-240-080	C-COIL, S 3.3 UH
L5	87-003-240-080	C-COIL, S 3.3 UH
R112	87-022-043-080	C-RES, M M/F 8.2K-1/8
S1	87-036-244-080	C-SW, SLIDE 1-2-2(NC)
S2	87-036-244-080	C-SW, SLIDE 1-2-2(NC)
S3	87-036-123-080	C-SW, SLIDE 1-1-2
S4	87-036-123-080	C-SW, SLIDE 1-1-2
S5	82-ZM2-620-010	SW, LEAF BSW371
S6	87-036-312-080	C-SW, PUSH 102MH4
S7	87-036-237-080	C-SW, PUSH
S8	87-036-237-080	C-SW, PUSH
S9	87-036-123-080	C-SW, SLIDE 1-1-2
SFR1	87-024-611-080	C-SFR, 4.7K EVM 3SS
TM1	82-HJ4-209-010	HLDR, TERM-8
VR1	87-024-583-010	VR, 20KAX2 DIA14

TUNER CIRCUIT BOARD SECTION

REF. NO.	PART NO.	DESCRIPTION
BT201	81-HR2-611-010	BAT, CL1220-1F5
C201	87-012-286-080	C-CAP, U 0.01-25 B
C202	87-010-154-080	C-CAP, S 10P-50 CH
C203	87-012-195-080	C-CAP, U 100P-50 CH
C204	87-012-176-080	C-CAP, U 15P-50 CH
C205	87-012-195-080	C-CAP, U 100P-50 CH
C206	87-012-195-080	C-CAP, U 100P-50 CH
C207	87-012-286-080	C-CAP, U 0.01-25 B
C208	87-012-274-080	C-CAP, U 1000P-50 B
C209	87-012-195-080	C-CAP, U 100P-50 CH
C210	87-012-168-080	C-CAP, U 6P-50 CH
C211	87-010-152-080	C-CAP, S 8P-50 CH
C212	87-012-286-080	C-CAP, U 0.01-25 B
C213	87-012-286-080	C-CAP, U 0.01-25 B
C214	87-012-286-080	C-CAP, U 0.01-25 B
C215	87-012-273-080	C-CAP, U 820P-50 B
C216	87-010-787-080	C-CAP, U 0.022-25B
C217	87-010-787-080	C-CAP, U 0.022-25B
C218	87-012-193-080	C-CAP, U 82P-50 CH
C219	87-012-199-080	C-CAP, U 220P-50 CH
C220	87-010-805-080	C-CAP, S 1-16 F
C221	87-010-831-080	C-CAP, U 0.1-16F
C222	87-010-830-080	C-CAP, U 0.068-16F
C223	87-010-831-080	C-CAP, U 0.1-16F
C224	87-012-280-080	C-CAP, U 3300P-50 B
C225	87-012-286-080	C-CAP, U 0.01-25 B
C226	87-012-286-080	C-CAP, U 0.01-25 B
C227	87-010-805-080	C-CAP, S 1-16 F
C228	87-010-805-080	C-CAP, S 1-16 F
C229	87-012-286-080	C-CAP, U 0.01-25 B
C230	87-012-282-080	C-CAP, U 4700P-50 B
C231	87-010-831-080	C-CAP, U 0.1-16F
C232	87-012-286-080	C-CAP, U 0.01-25 B
C233	87-012-286-080	C-CAP, U 0.01-25 B
C234	87-012-274-080	C-CAP, U 1000P-50 B
C235	87-010-831-080	C-CAP, U 0.1-16F
C236	87-010-872-080	C-CAP, U 470P-50 SL
C237	87-012-337-080	C-CAP, U 56P-50 CH
C238	87-012-251-080	C-CAP, U 27P-50 UJ
C239	87-012-282-080	C-CAP, U 4700P-50 B
C240	87-010-787-080	C-CAP, U 0.022-25B
C241	87-010-829-080	C-CAP, U 0.047-16F
C242	87-012-282-080	C-CAP, U 4700P-50 B
C243	87-010-805-080	C-CAP, S 1-16 F
C244	87-012-156-080	C-CAP, S 220P-50 CH
C245	87-012-195-080	C-CAP, U 100P-50 CH
C246	87-012-142-080	C-CAP, S 0.33-16 F
C247	87-010-154-080	C-CAP, S 10P-50 CH
C248	87-012-276-080	C-CAP, U 1500P-50 B
C249	87-010-197-080	C-CAP, S 0.01-25 B
C250	87-010-197-080	C-CAP, S 0.01-25 B
C251	87-010-197-080	C-CAP, S 0.01-25 B
C252	87-010-197-080	C-CAP, S 0.01-25 B
C253	87-010-197-080	C-CAP, S 0.01-25 B
C254	87-010-805-080	C-CAP, S 1-16 F
C255	87-010-196-080	C-CAP, S 0.1-25 F
C256	87-012-184-080	C-CAP, U 33P-50 CH
C257	87-012-169-080	C-CAP, U 7P-50 CH
C258	87-010-805-080	C-CAP, S 1-16 F
C259	87-010-196-080	C-CAP, S 0.1-25 F
C260	87-010-196-080	C-CAP, S 0.1-25 F
C261	87-010-196-080	C-CAP, S 0.1-25 F
C262	87-010-197-080	C-CAP, S 0.01-25 B
C263	87-010-746-080	C-CAP, TN 10-4
C264	87-010-483-010	CAP, E 220-4
C265	87-010-424-080	C-CAP, TN 4.7-4
C266	87-010-505-080	C-CAP, TN 1-16
C267	87-010-746-080	C-CAP, TN 10-4
C268	87-010-196-080	C-CAP, S 0.1-25 F
C269	87-010-805-080	C-CAP, S 1-16 F
C270	87-010-805-080	C-CAP, S 1-16 F(JX719)
C271	87-012-178-080	C-CAP, U 18P-50 CH
CF201	87-008-406-080	BPF, GFMB1
CF202	87-008-455-080	C-FILTER KIT 10.7
CF203	+++	C-FILTER KIT 10.7
CF205	+++	C-FILTER KIT 10.7
CF204	87-008-396-080	C-FILTER, CF, 450KHZ
CF206	87-008-397-010	FILTER, SAW, 456, F18
CT201	87-011-189-080	C-TRIMMER, CTZ-10A
D204	87-001-945-080	C-LED 1PR51
L201	82-HJ4-610-010	COIL, FM OSC
L202	87-005-564-080	C-COIL, S 2.2UH K
L203	82-HJ4-611-010	COIL, FM RF
L204	87-008-420-080	C-IFT, 450K, MW
L205	80-HJ1-613-010	BAR, ANTENA ASSY
L206	87-003-247-080	C-COIL, 100UH J
L208	87-006-173-080	C-COIL, DD, 5CDL
L209	87-003-243-080	C-COIL, S 10UH K
LCD201	82-HJ4-609-010	LCD ASSY, 030
S201	87-036-123-080	C-SW, SLIDE 1-1-2
S202	87-036-123-080	C-SW, SLIDE 1-1-2

REF. NO.	PART NO.	DESCRIPTION
L202	87-005-564-080	C-COIL, S 2.2UH K
L203	82-HJ4-611-010	COIL, FM RF
L204	87-008-420-080	C-IFT, 450K, MW
L205	80-HJ1-613-010	BAR, ANTENA ASSY
L206	87-003-247-080	C-COIL, 100UH J
L208	87-006-173-080	C-COIL, DD, 5CDL
L209	87-003-243-080	C-COIL, S 10UH K
LCD201	82-HJ4-609-010	LCD ASSY, 030
S201	87-036-123-080	C-SW, SLIDE 1-1-2
S202	87-036-123-080	C-SW, SLIDE 1-1-2
S204	87-030-152-080	C-SW, TACT SKHU260
S205	87-030-152-080	C-SW, TACT SKHU260
S209	87-036-146-080	C-SW SLIDE 1-1-4(FOR JX719)
S209	87-036-123-080	C-SW, SLIDE 1-1-2(FOR JX619)
S210	87-036-146-080	C-SW SLIDE 1-1-4(JX719)
VC201	87-026-359-080	C-VARICAP, KV1410(F1)
VC202	87-026-359-080	C-VARICAP, KV1410(F1)
VC203	87-026-435-080	C-VARICAP, KV1560(A6)
X201	87-030-180-010	X'TAL KF-38R5-8A

REF. NO.	PART NO.	DESCRIPTION
TACT CIRCUIT BOARD SECTION		
S203	87-036-220-080	C-SW, T
S206	87-036-220-080	C-SW, T
S207	87-036-220-080	C-SW, T
S208	87-036-220-080	C-SW, T
HEAD FLEX. CIRCUIT BOARD SETI		
	82-HJ4-601-010	HEAD ASSY
MISCELLANEOUS		
M1	09-001-258-010	MOTOR KIT ABL-10

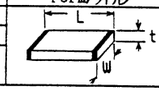
○チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip resistor part coding

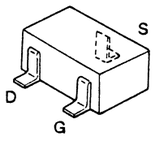
88 - □□□ - □□□□

- □□□: A 抵抗コード Resistor code
- □□□□: 桁表示 Figure / 抵抗値 Value of resistor

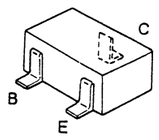
チップ抵抗
Chip resistor

Wattage 容量	Type 種類	Tolerance 許容誤差	Symbol 記号	Dimensions／寸法(mm) Form/外形	L	W	t	Resistor Code : A 抵抗コード : A
1/32W	1608	±5%	CJ		1.6	0.8	0.35	108
1/10W	2125	±5%	CJ		2	1.25	1.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.5 ～0.7	128

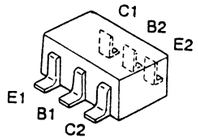
TRANSISTOR ILLUSTRATION



2SK882

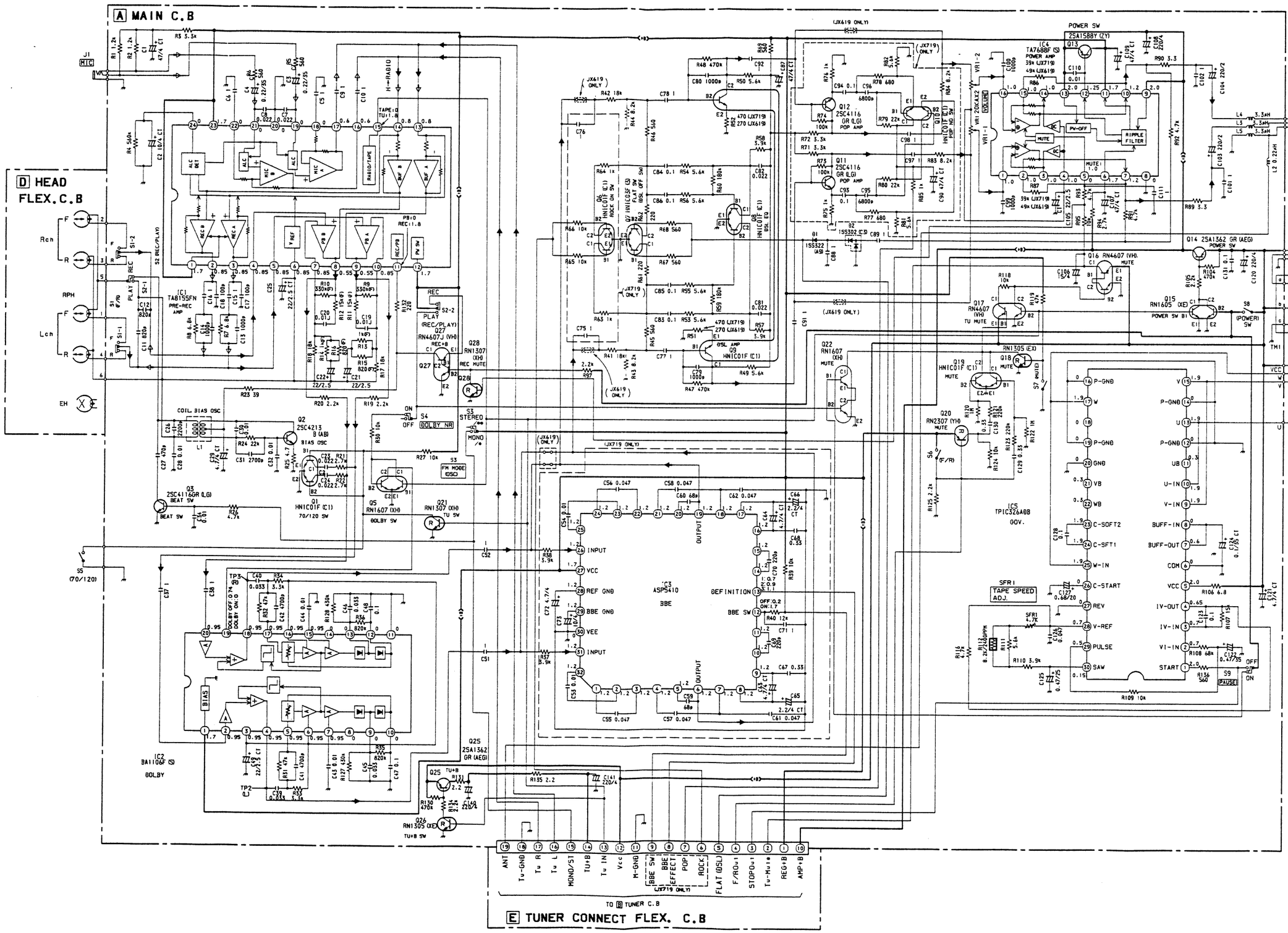


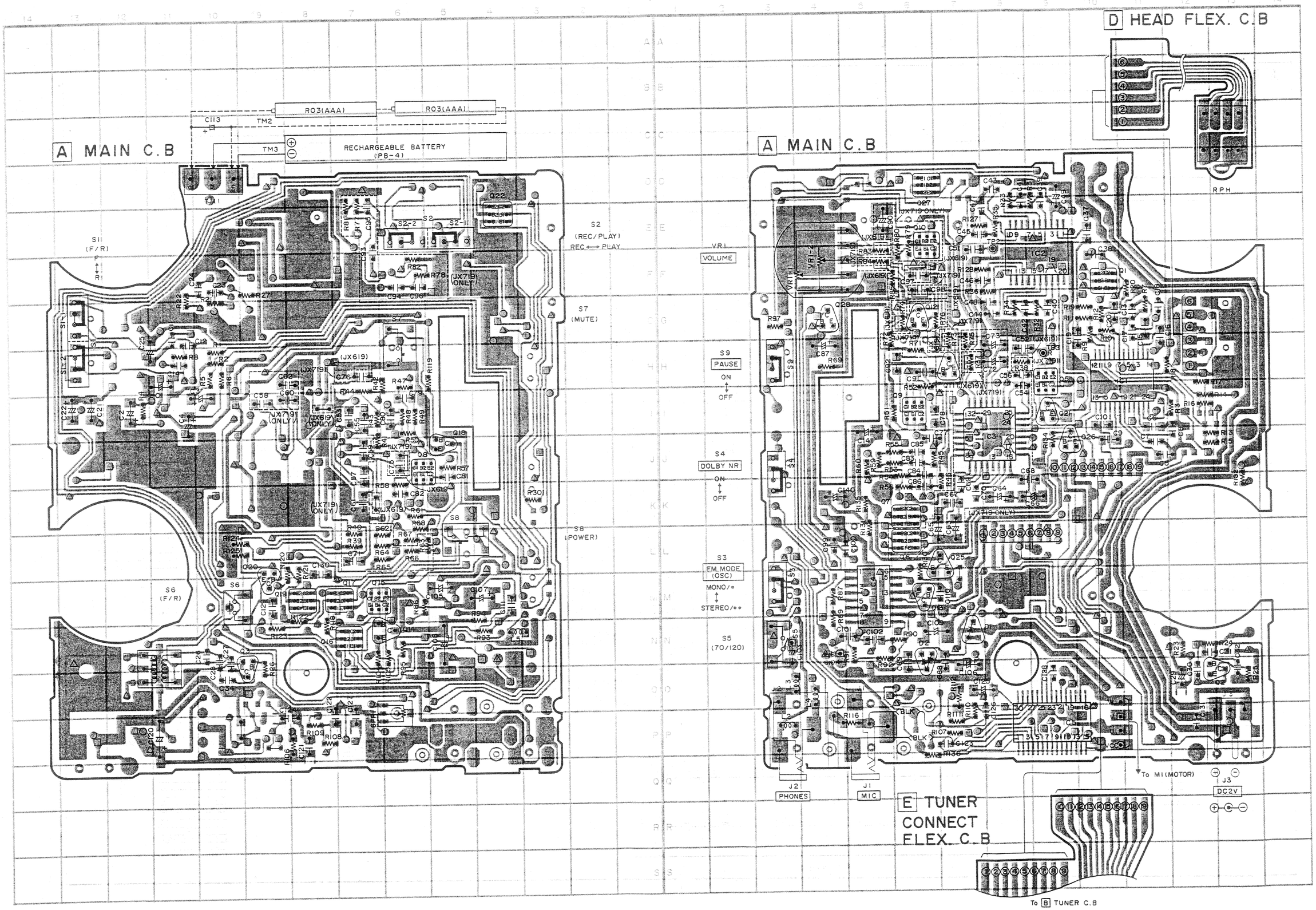
2SA1362
2SA1586
2SC4116
2SC4213
2SC4215
RN1305
RN1307
RN2307

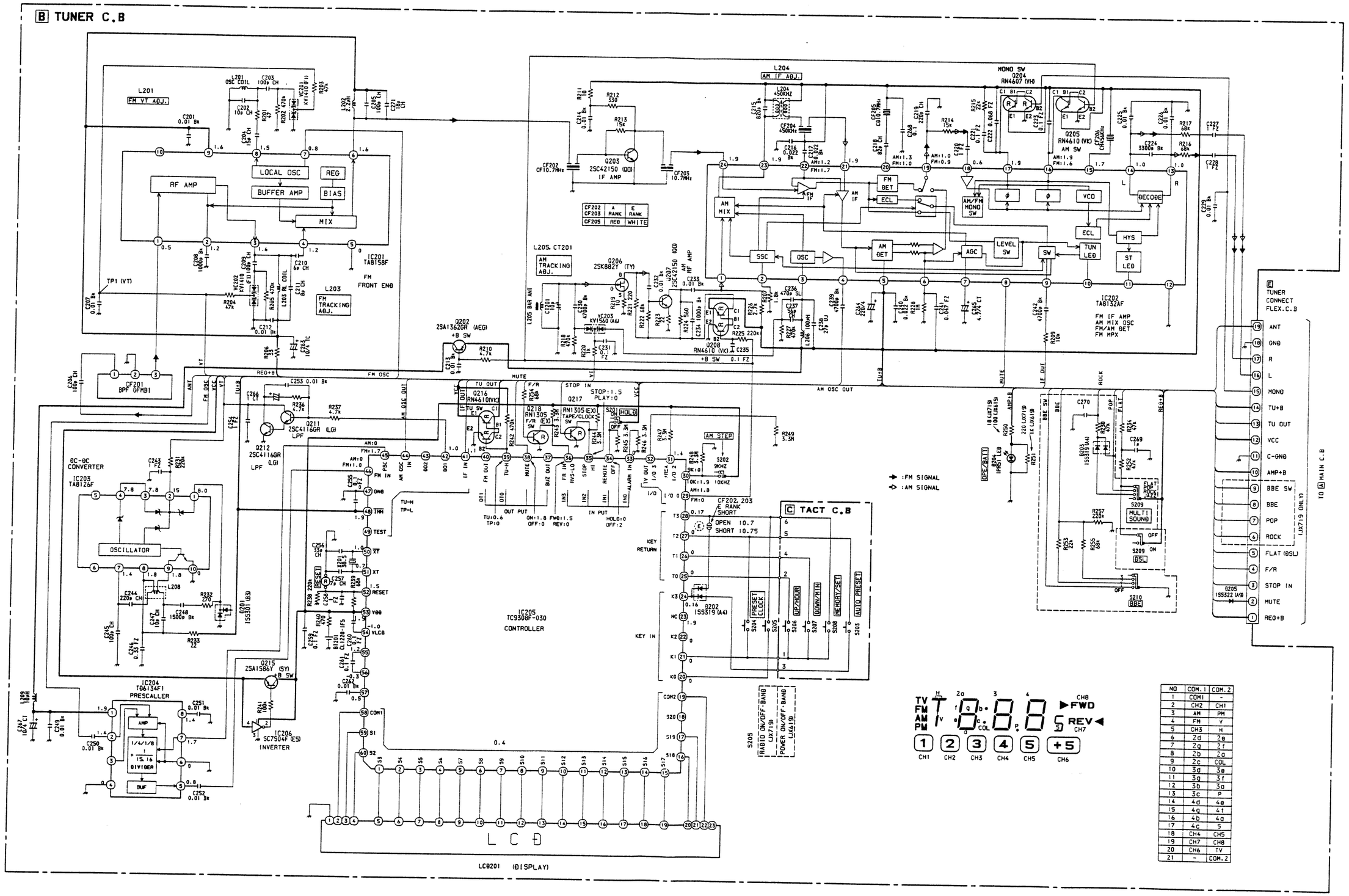


HN1C01
HN1C03
RN1605
RN1607
RN4607
RN4610

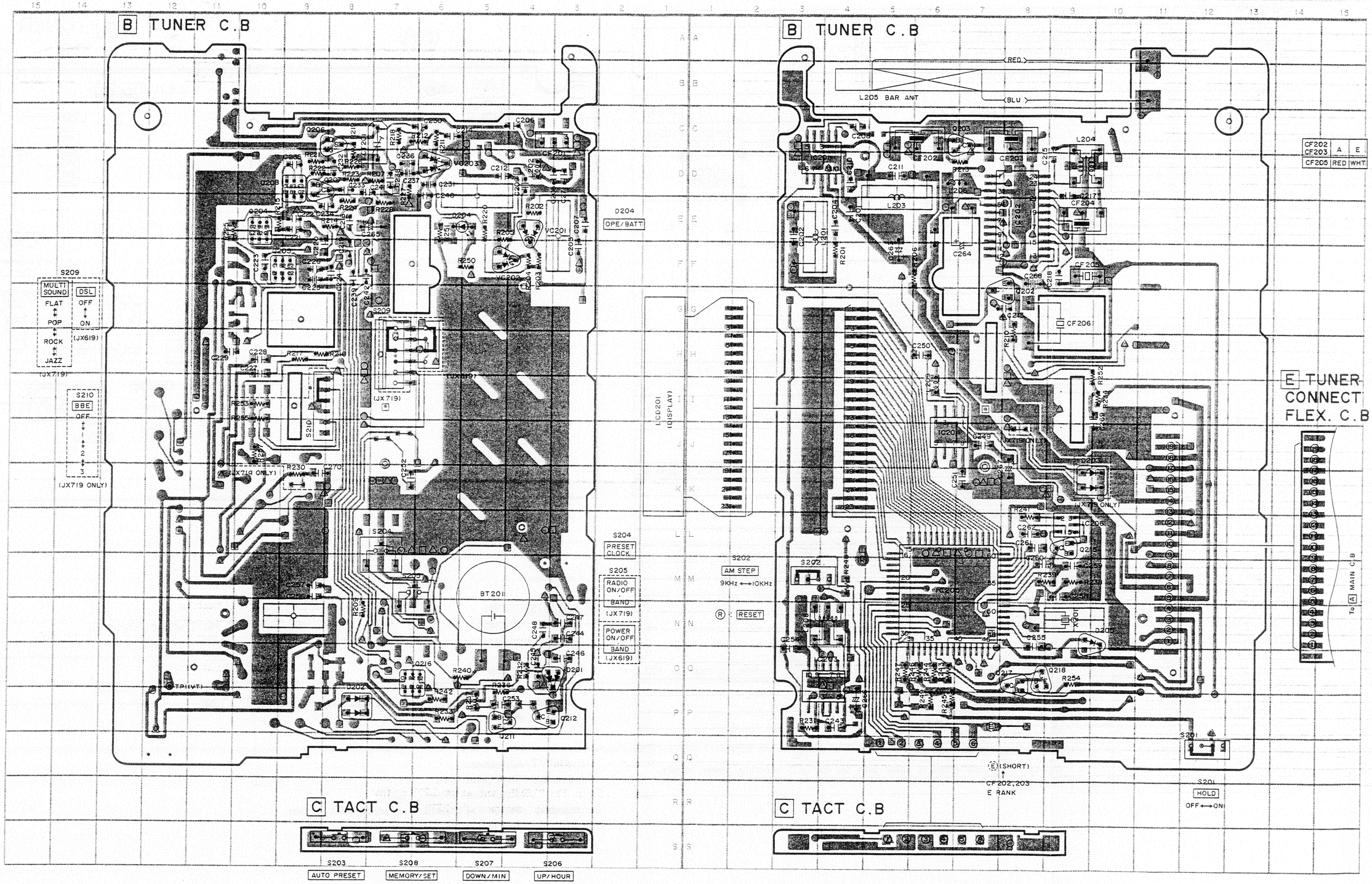
SCHEMATIC DIAGRAM – 1




A MAIN C.B
R03(AAA)
R03(AAA)
C113
TM2
TM3
RECHARGEABLE BATTERY (PB-4)
S11 (F/R)
S2 (REC/PLAY)
REC ⟷ PLAY
S7 (MUTE)
S8 (POWER)
S6 (F/R)
(JX619)
(JX719) ONLY
VR1 VOLUME
S9 PAUSE ON ↕ OFF
S4 DOLBY NR ON ↕ OFF
S3 FM MODE (OSC) MONO/● ↕ STEREO/●●
S5 (70/120)
J2 PHONES
J1 MIC
D HEAD FLEX. C.B
RPH
To MI (MOTOR)
J3 DC2V
E TUNER CONNECT FLEX. C.B
To B TUNER C.B



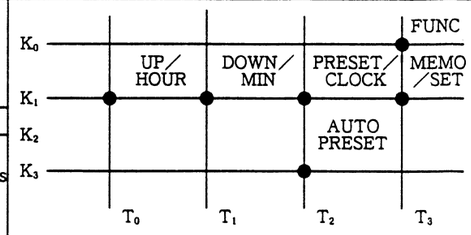
NO	COM.1	COM.2
1	COM1	-
2	CH2	CH1
3	AM	PM
4	FM	V
5	CH3	H
6	2d	2e
7	2g	2f
8	2b	2a
9	2c	COL
10	3d	3e
11	3g	3f
12	3b	3a
13	3c	P
14	4d	4e
15	4g	4f
16	4b	4a
17	4c	S
18	CH4	CH5
19	CH7	CH8
20	CH6	TV
21	-	COM.2


B TUNER C.B
B TUNER C.B
L205 BAR ANT
(RED)
(BLU)
CF202 CF203 A E
CF205 RED WHT
E TUNER CONNECT FLEX. C.B
To A MAIN C.B
S209
MULTI SOUND
FLAT
POP
ROCK
JAZZ
(JX719)
DSL
OFF
ON
(JX619)
S210
BBE
OFF
1
2
3
(JX719 ONLY)
D204
OPE/BATT
S204
PRESET CLOCK
S205
RADIO ON/OFF
BAND
(JX719)
POWER ON/OFF
BAND
(JX619)
S202
AM STEP
9KHz ↔ 10KHz
R : RESET
S201
HOLD
OFF ↔ ON
E (SHORT)
CF202,203
E RANK
C TACT C.B
C TACT C.B
S203
AUTO PRESET
S208
MEMORY/SET
S207
DOWN/MIN
S206
UP/HOUR

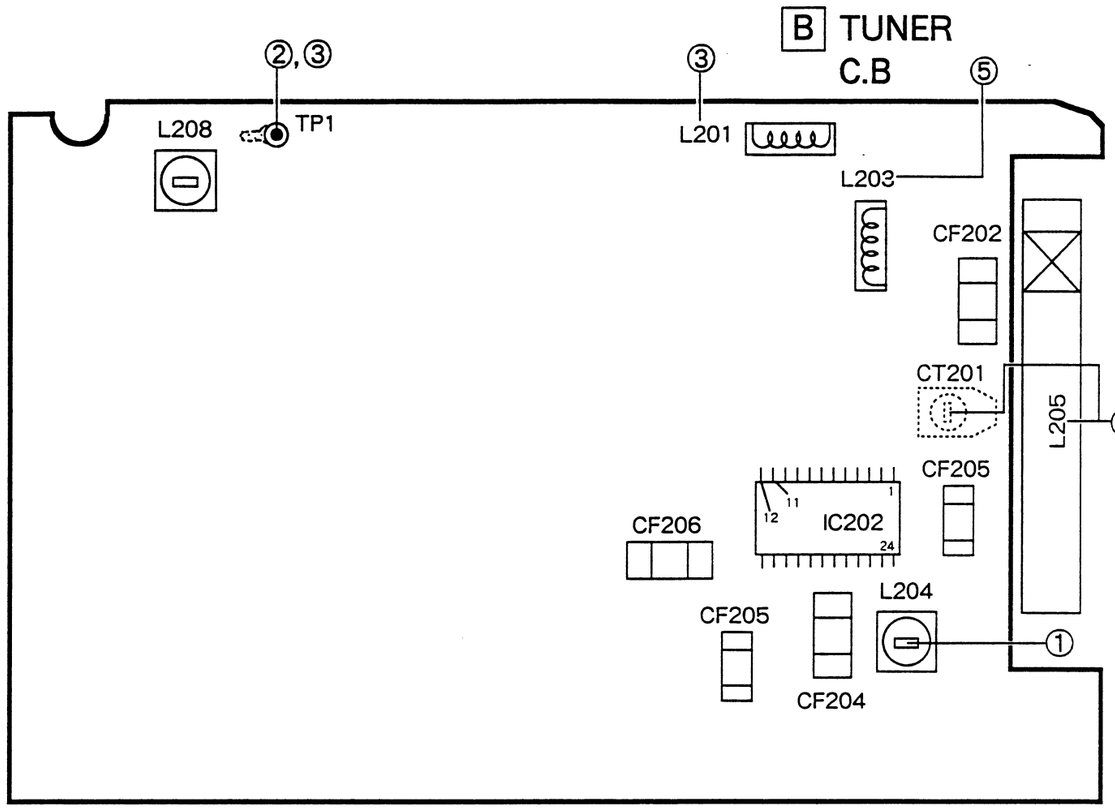
IC DESCRIPTION

IC,TC9308 – 030

Pin No.	Pin Name	I/O	Description
58	COM1	O	Common output. } LCD drive outputs.
19	COM2	O	Common output.
59, 60 1~17	S1~19	O	Segment outputs.
20	K_0	I	Key return signal inputs for the key matrix. (Except for K2)
21	K_1	I	
22	K_2	I	
24	K_3	I	
23	NC	–	Unused.
25	T_0	O	Key return signal outputs for the key matrix.
26	T_1	O	
27	T_2	O	
28	T_3	O	
29, 30	I_{00}, I_{01}	I	I_{00} / I_{01} / Mode: H / H / 10kHz (AM); H / L / 9kHz (AM); L / H / FM1; L / L / FM2. Band switching input pins.
31	AREA	I	Inputs to switch the tuner specifications.
32	TV OUT	I	
33	ALARM IN	I	Alarm input. While this input is "H", a buzzer sound is output. The input is inhibit in the tuner mode.
34	REMOTE OFF	I	"H" input causes only the PRESET function to turn off. "L" input causes only the PRESET function to turn on.
35	STOP IN	I	Clock display at "H". TAPE is displayed at "L". The frequency is displayed in the radio mode.
36	F/R IN	I	Goes "HIGH" when the tape runs forward and "LOW" when it runs is reverse.
37	BUZ OUT	O	Buzzer output.
38	MUTE OUT	O	Muting output. "HIGH" level mutes a signal.
39	TU – H	O	Output "H" in the TUNER function mode.
40	FM OUT	–	Unused.
41	IF IN	I	Auto stop input. A signal is input in the MUTE ON mode.
42	D_{01}	O	Error output of phase detector. Applies a pulse to the LPF.
43	D_{02}	–	Unused.
44	AM OSC IN	I	AM OSC input.
45	PSC	O	PSC output.
46	FM IN	I	Receives the prescaler output.
47	GND	–	Ground pin.
48	$\overline{INH}$	I	TUNER "H" is input to activate the PLL. TAPE "L" is input to stop the PLL.
49	TEST	–	Unused.
50, 51	$\overline{XT}$, XT	I	A crystal oscillator is connected to these pins.
52	RESET	I	Reset input. Reset at "L".
53	VDD	–	Connected to a power supply.
54	VLCD	–	LCD boosting power supply.
55~57	C1~C3	–	Capacitors are connected to these pins for an LCD boosting power supply.
18	S20	–	Unused.



ADJUSTMENT



〈RADIO SECTION〉

1. AM IF Adjustment
   L204 ····· 450kHz

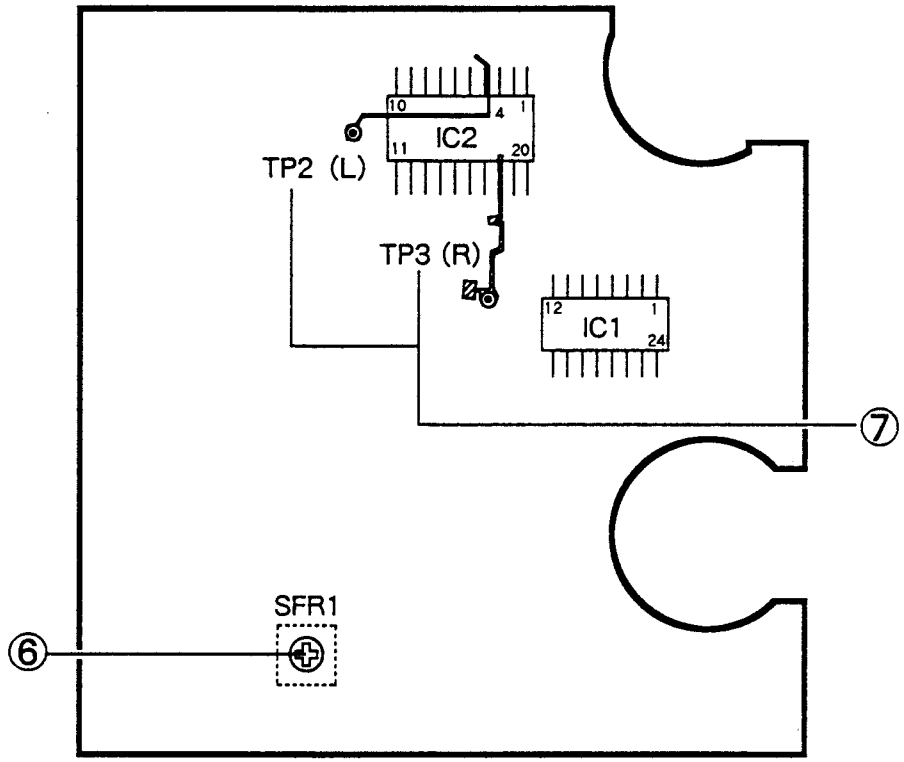
2. AM VT Check
   Settings : Test point • TP1
   Method : Set to AM531kHz and TP1,check the voltage for more than 0.65V.
   • 7.0~8.0V AM 1,602kHz

3. FM VT Adjustment
   Settings : Test point • TP1
   : Adjustment location • L201
   Method : Set to FM 87.5MHz and adjust L201 so that the test point becames 1.0~1.2V.
   • 6.0~8.0V at FM 108MHz.

4. AM Tracking Adjustment
   L205 ····· 630kHz
   CT201 ····· 1440kHz

5. FM Tracking Adjustment
   L203 ····· 87.5MHz

A MAIN C.B



〈TAPE RECORDER SECTION〉

6. Tape Speed Adjustment.
   Settings: Test tape • TTA – 100 (TTA – 111S)
   : Test point • PHONES JACK
   : Adjustment location • SFR1
   Method : Play back the test tape, adjust for 3000Hz at FWD and ± 45Hz at REV.

7. Dolby Level Check
   Settings: Test tape • TTA – 200 (TTA – 161S,TCC – 130)
   : Test point • TP2 (Lch), TP3 (Rch)
   : DOLBY SW • OFF
   : PAUSE SW • OFF
   : BBE SW • OFF (JX719)
   : MULTI SOUND PROCESSOR SW • OFF (JX719)
   : DSL SW • OFF (JX619)
   Method : Connect an electrolytic capacitor (10 μ F/ 16V) to measured equipment and TP2 (3), check the voltage for 100mV ± 1dB.

8. Azimuth Adjustment.
   This model is no azimuth adjustment.

PRACTICAL SERVICE FIGURE

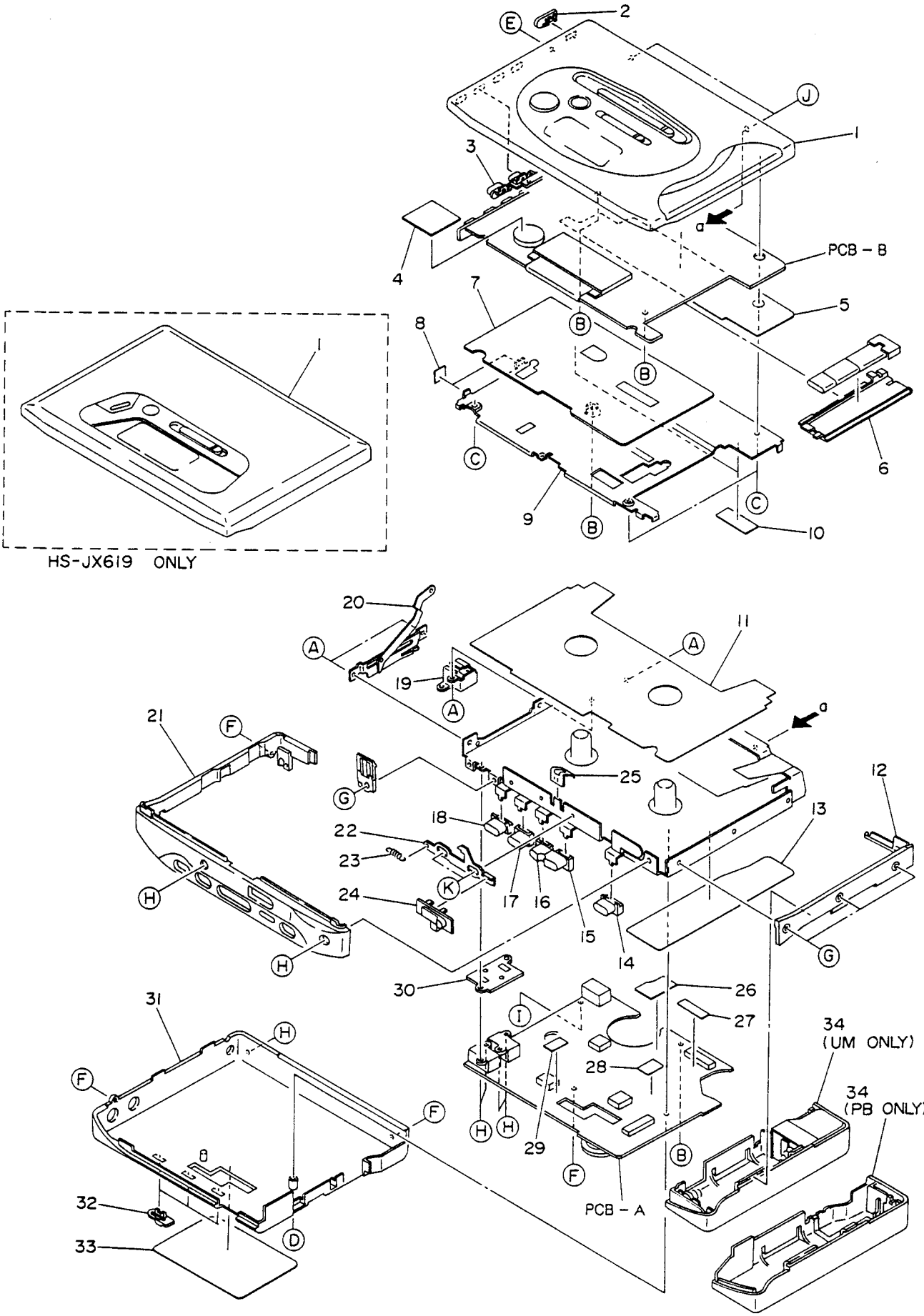
〈RADIO SECTION〉

Sensitivity :	
(IHF THD 3%)	FM Less than 19dB (90MHz)
(S/N 10dB)	AM Less than 54dB (999kHz)
Intermediate frequency :	FM 10.7MHz
	AM 450kHz
FM stereo separation :	More than 17dB (1kHz)

〈TAPE RECORDER SECTION 〉

Wow & flutter :	More than 0.47% (RMS)
Take – up torque	22~34g – cm (FWD, REV)
F.F torque :	70~150g – cm
REW torque :	70~150g – cm
S/N ratio :	More than 47dB (PB)
	More than 35dB (REC)
Distortion :	Less than 3% (PB)
	Less than 10% (REC)
Erasing ratio :	More than 48dB (1kHz)
Noise level :	Less than 3mV (VOL MAX DC)
Bias frequency :	50kHz
Frequency response :	63Hz~8kHz ± 3.5dB (NORMAL)
	63Hz~10kHz ± 4.5dB (CrO2, METAL)

MECHANICAL EXPLODED VIEW 1/1

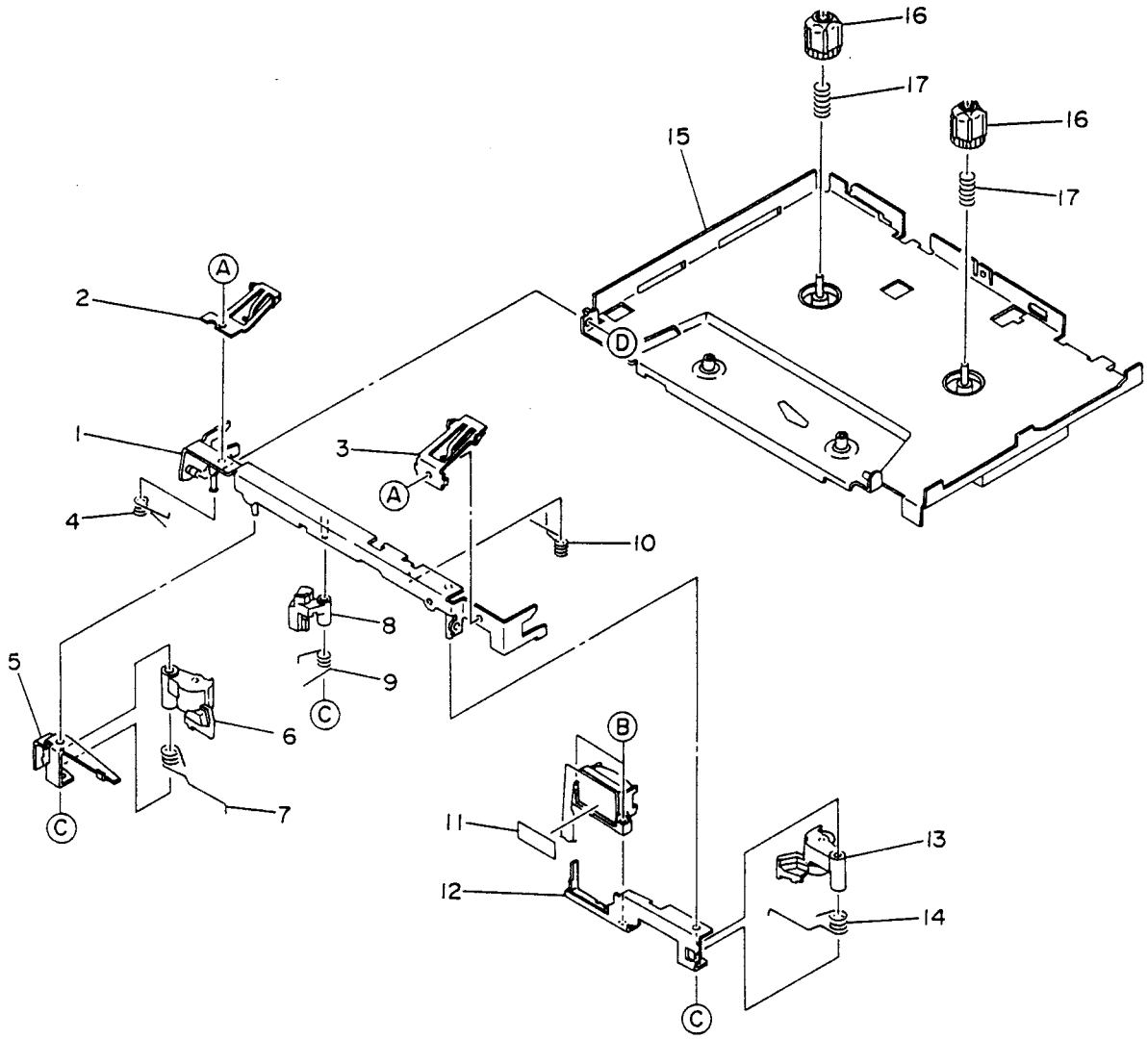


MECHANICAL PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO.	PART NO.	DESCRIPTION
1	09-028-075-010	LID, CASS ASSY(JX619)
1	09-028-057-010	LID, CASS ASSY(JX719)
2	82-HJ4-017-010	KNOB, SLIDE H
3	82-HJ4-014-010	KEY, SET
4	82-HJ4-225-010	SH, B-BATT
5	82-HJ4-218-110	SH, FLEX
6	82-HJ4-204-010	HLDR, ANT
7	82-HJ4-217-010	SH, PWB
8	80-HJ3-618-010	SH, BAT
9	82-HJ4-201-110	HLDR, CASS
10	81-HJ4-236-010	SH 15-7
11	82-ZM2-325-210	SH CHAS
12	82-HJ4-005-010	FRAME, BOTTOM
13	82-HJ4-223-010	SH, CHAS-INS
14	82-HJ4-013-110	P-BUTTON, REC
15	82-HJ4-012-010	P-BUTTON, REW
16	82-HJ4-011-010	P-BUTTON, FF
17	82-HJ4-010-010	P-BUTTON, STOP
18	82-HJ4-009-010	P-BUTTON, PLAY
19	82-HJ4-207-010	HLDR, JACK D
20	82-HJ4-221-010	HLDR, ASSY
21	82-HJ4-004-010	FRAME, CENTER
22	82-HJ4-205-010	PLATE, LOCK
23	82-HJ4-222-110	SPR-E, LOCK
24	82-HJ4-020-110	KNOB, OPEN
25	82-HJ4-234-010	SPR-P, C-PUSH-N
26	82-HJ4-227-110	SH, M-PWB A
27	82-HJ4-229-110	SH, M-PWB C
28	81-HK3-226-010	SH 5-8-0.1
29	82-HJ4-228-010	SH, M-PWB B
30	82-HJ4-208-010	PLATE, JACK
31	82-HJ4-003-210	CAB, REAR(BLK)
32	82-HJ4-016-010	KNOB, SLIDE R
33	82-HJ9-006-010	PLATE, REAR(JX619)
33	82-HJ4-023-110	PLATE, REAR(JX719)
34	09-028-074-010	BATT BOX ASSY UM
34	09-028-076-010	BATT BOX ASSY PB
	09-028-048-010	APPE SCREW KIT
A	87-263-500-010	V+1.4-1.4
B	87-067-385-010	VT 1.4-2.5 HL
C	87-067-384-010	VT 1.4-3.5 HL
D	87-067-430-010	VT 1.4-5 HL
E	87-067-628-010	S-SCREW+1.4-1 [B]
F	87-067-320-010	S-SCREW+1.4-1.8 [B]
G	87-067-359-010	S-SCREW+1.4-2.5 [B]
H	87-067-360-010	S-SCREW+1.4-3.5 [B]
I	87-067-746-010	SCREW SERRATE M1.4-2 (HO.5)
J	87-067-738-010	HINGE SCRW 1.4-1 [B] N
K	87-067-986-010	S-HINGE 1.4-1 [B] NL

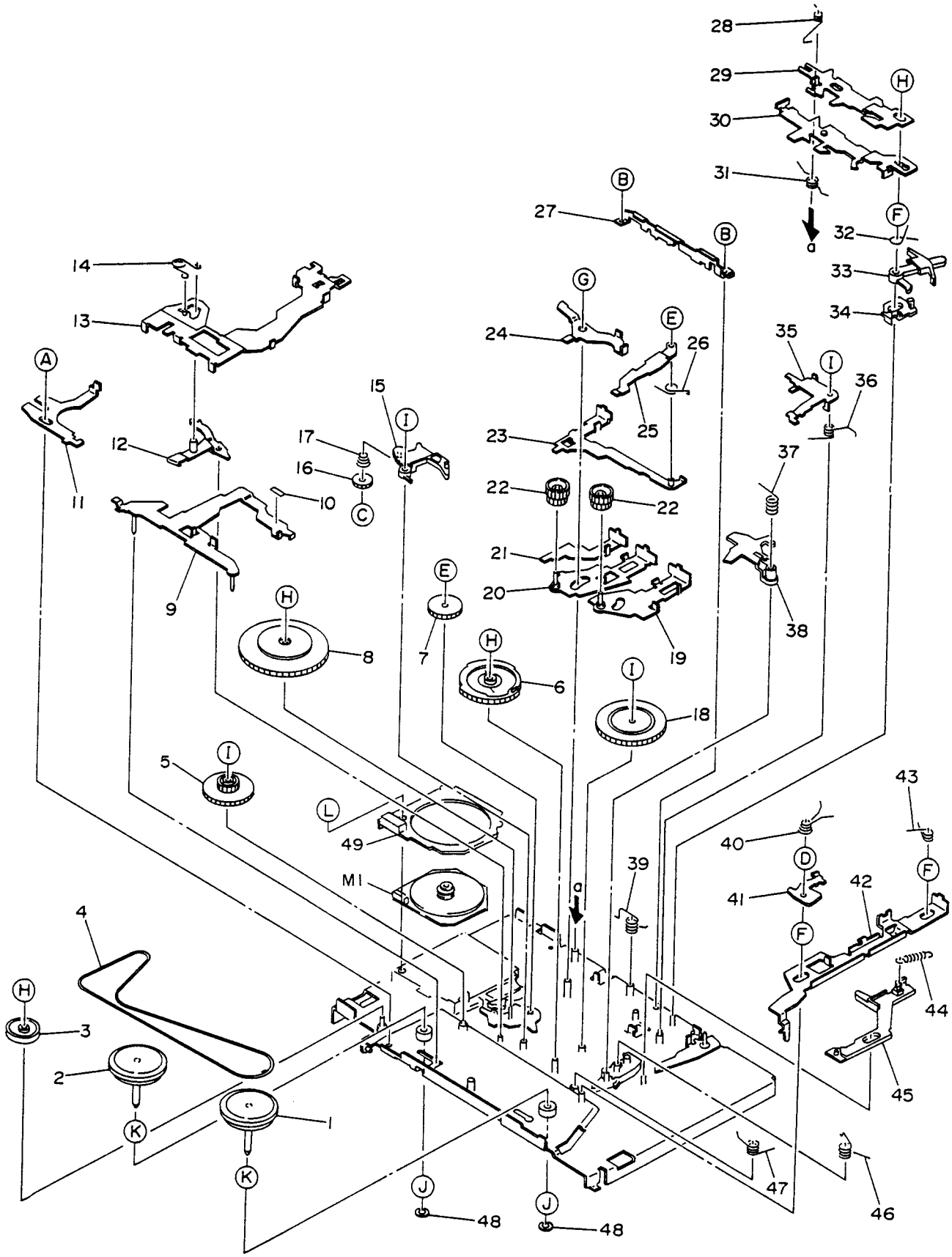
MECHANISM EXPLODED VIEW 1/2



MECHANISM PARTS LIST 1/2

REF. NO.	PART NO.	DESCRIPTION
1	82-ZM2-224-010	HLDR ASSY, HEAD J
2	82-ZM2-233-110	SPR-P, HLD L
3	82-ZM2-234-110	SPR-P, HLD R
4	82-ZM2-306-010	SPR-T, EH BACK
5	82-ZM2-271-010	LVR, EH LOCK
6	82-ZM2-227-110	ARM ASSY, PINCH L
7	82-ZM2-317-010	SPR-T, PINCH LJ
8	82-ZM2-260-010	ARM ASSY, EH
9	82-ZM2-305-010	SPR-T, EH
10	82-ZM2-304-010	SPR-T, ARM HEAD
11	80-ZM4-330-010	SH, 4.5-12
12	82-ZM2-232-010	ARM, HEAD
13	82-ZM2-230-110	ARM ASSY, PINCH R
14	82-ZM2-318-010	SPR-T, PINCH RJ
15	M8-2ZS-290-000	ABL-10
16	82-ZM2-278-010	GEAR, REEL
17	82-ZM2-307-010	SPR-C, REEL
A	87-263-503-310	V+1.4-2.0 CR
B	87-067-954-010	S-SCREW V+1.4-3.7
C	87-067-569-010	PW 0.83-2.5-0.25 CUT
D	87-078-011-010	PW 1.3-3.1-0.4 C-60

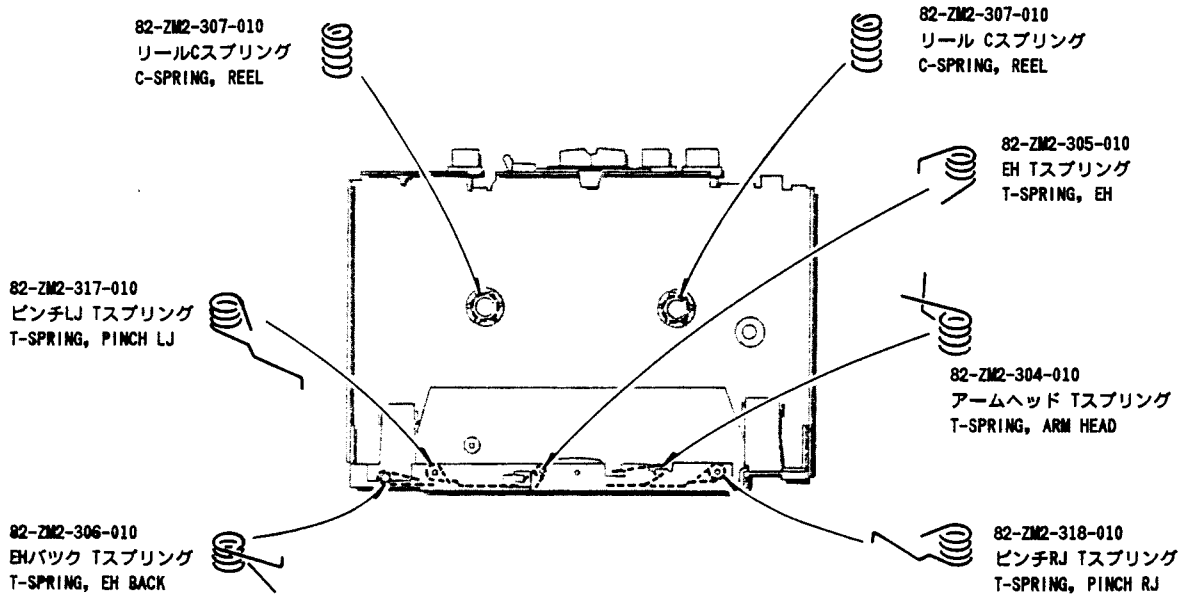
MECHANISM EXPLODED VIEW 2/2

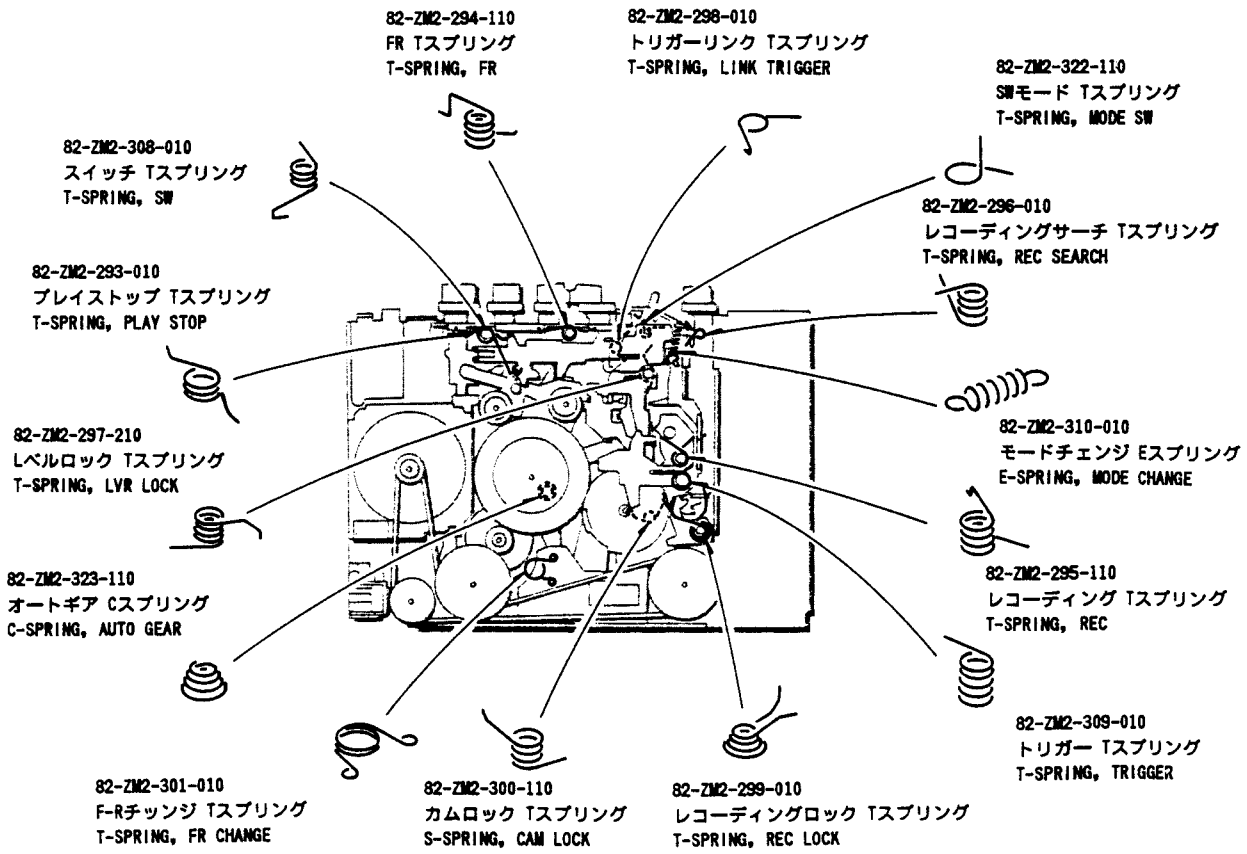


MECHANISM PARTS LIST 2/2

REF. NO.	PART NO.	DESCRIPTION
1	82-ZM2-215-210	FLY-WHL ASSY, L
2	82-ZM2-211-210	FLY-WHL ASSY, R
3	82-ZM2-315-010	PULLEY, IDLE
4	82-ZM2-292-010	BELT, SQ 0.65-194.7
5	82-ZM2-281-010	GEAR, LINK A
6	82-ZM2-285-110	GEAR, CAM
7	82-ZM2-284-010	GEAR, PLAY
8	82-ZM2-286-010	SLIP ASSY
9	82-ZM2-243-010	LVR ASSY, CAM
10	82-ZM2-327-010	SH 2-7.7-0.14
11	82-ZM2-256-110	LVR, FR MODE
12	82-ZM2-250-010	ARM ASSY, PLAY GR
13	82-ZM2-255-010	LVR ASSY, HEAD UP
14	82-ZM2-301-010	SPR-T, FR CHANGE
15	82-ZM2-272-010	ARM, AUTO
16	82-ZM2-273-110	GEAR, AUTO
17	82-ZM2-323-110	SPR-C, AUTO GEAR
18	82-ZM2-282-010	GEAR, LINK B
19	82-ZM2-238-210	LVR ASSY, REW
20	82-ZM2-235-010	LVR ASSY, FF
21	82-ZM2-261-010	LVR, STOP
22	82-ZM2-283-010	GEAR, FR
23	82-ZM2-240-010	LVR ASSY, PLAY
24	82-ZM2-262-310	LINK, HEAD UP
25	82-ZM2-267-010	ARM, DIR
26	82-ZM2-298-010	SPR-T, LINK TRIGGER
27	82-ZM2-312-010	HLDR, LVR
28	82-ZM2-308-010	SPR-T, SW
29	82-ZM2-264-310	LVR, PLAY SW
30	82-ZM2-265-010	LVR, LOCK
31	82-ZM2-293-010	SPR-T, PLAY STOP
32	82-ZM2-322-110	SPR-T, MODE SW
33	82-ZM2-277-010	ARM, MODE SW
34	82-ZM2-274-010	LINK, MODE SW
35	82-ZM2-266-110	LINK, TRIGGER LOCK
36	82-ZM2-297-210	SPR-T, LVR LOCK
37	82-ZM2-309-010	SPR-T, TRIGGER
38	82-ZM2-275-110	ARM, TRIGGER
39	82-ZM2-294-110	SPR-T, FR
40	82-ZM2-299-010	SPR-T, REC LOCK
41	82-ZM2-268-010	ARM, REC LOCK
42	82-ZM2-254-110	LVR, REC
43	82-ZM2-296-010	SPR-T, REC SEARCH
44	82-ZM2-310-010	SPR-E, MODE CHANGE
45	82-ZM2-276-110	LVR, MODE CHANGE
46	82-ZM2-295-110	SPR-T, REC
47	82-ZM2-300-110	SPR-T, CAM LOCK
48	86-550-455-010	SH, 0.87-2.25-0.25CUT
49	82-ZS2-604-110	HOLD FP
A	87-ZM2-314-010	S-SCREW V+1.4-1
B	87-067-300-110	V+1.4-1.1
C	87-067-998-010	PW 0.8-2.5-0.2 SLT
D	87-067-951-010	PW 1.15-3-0.25 C
E	87-067-548-010	PW 1.2-3-0.25 SLT
F	87-067-729-010	PW 1.3-4-0.25 C-CUT
G	87-067-952-010	PW 1.8-3.2-0.25 C
H	87-067-639-010	PW 3-0.8-0.25 SLT
I	87-067-860-010	PW 3-0.95-0.4
J	87-067-971-010	RW 1.28-2.3-0.25
K	87-067-370-010	RW 1.28-3-0.25
L	---	SCREW

SPRING APPLICATION POSITION





REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER
ｻｰｼﾞｻﾌﾟﾚｯｻ	SERGESUPPRESSOR
ｾﾗｺﾝ	CAP, CERA

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BAT, CONTACT ASSY	BATTERY CONTACT ASSY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
KNOB, VOL REV	KNOB, VOLUME REV
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTORL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOADING MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
SW	SWITCH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL
ｼｬﾌｱｰﾑ	ARM, SHAFT
ｼｬﾌｶﾞｲﾄﾞ	GUIDE, SHAFT
ｽﾄﾗｯﾌﾟ	STRAP
ﾋﾝｼﾞ	HINGE